



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/775,238

02/01/2001

Ian B. Maclean

NORT0090US(13366RRUS02U)

8146

21906

7590

07/25/2006

TROP PRUNER & HU, PC
1616 S. VOSS ROAD, SUITE 750
HOUSTON, TX 77057-2631

EXAMINER

RYMAN, DANIEL J

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/775,238	Applicant(s) MACLEAN, IAN B.	
	Examiner Daniel J. Ryman	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7,9,10,12-21,23-25 and 27-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-7,9,10,12-21,23-25 and 27-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In view of the pre-appeal brief filed on 5 June 2006, PROSECUTION IS HEREBY REOPENED. A new ground of rejection, regarding claims 25 and 33, is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 25 and 33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 25 and 33 are directed to a data signal per se. A data signal is a data structure, which is non-statutory subject matter when claimed as a data structure, per se. To be statutory, the claim must either have independent physical acts or

Art Unit: 2616

manipulate data representing physical objects or activities, or be limited to a practical application by producing a concrete, tangible, and useful result.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 7, 9, 10, 12, 17, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (USPN 6,515,974), of record, in view of Rao (USPN 6,535,511), of record.

6. Regarding claims 3, 9, and 10, Inoue discloses a method of communications between first and second wireless networks, comprising receiving a first data packet having a header and a payload portion, the header of the first data packet containing a private network address of a first node in the first wireless network (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16) where it is implicit that the IP packet will have a header and a payload portion; translating, by a network address translator, the private network address in the header to a public network address (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16); and sending a second data packet containing the public network address translated from the private network address to a second node in the second wireless network (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16).

Inoue does not expressly disclose that the payload portion contains the private network address or translating the private network address in each of the header and payload portion to a public network address. Rao teaches, in a packet communication system using network address

translation (NAT), that “some applications embed addressing information in their message payload data” in order to “initialize or set up a communication session with another application” where “[t]his embedded addressing information is also to be translated when the packet is crossing a boundary” (col. 1, lines 45-48 and col. 4, lines 1-6). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a private network address in the payload portion and to translate the private network address in each of the header and payload portion to a public network address in order to permit communication between applications existing in disparate addressing systems.

7. Regarding claim 7, Inoue in view of Rao discloses determining whether to establish a data session (determine translation information for a data session and then pass a translated packet to the appropriate network) on a packet data network on behalf of a roaming mobile station through the first wireless network or the second wireless network (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16) where when the relay receives a packet for which it does not have address information, the relay will determine the translation information and then pass the packet to the appropriate network after having translated the packet (col. 11, line 58-col. 12, line 22).

8. Regarding claims 12 and 27, Inoue in view of Rao discloses that translating the private network address in the payload portion of the first packet is performed by identifying a string in the payload portion of the first packet containing the private network address (Rao: col. 4, lines 9-19 and col. 4, lines 60-67).

9. Regarding claim 17, Inoue in view of Rao discloses that the system receives the first packet from the first wireless network associated with a first network operator and sends the second packet to a node in a second wireless network associated with a second network operator

(Inoue: col. 3, lines 1-15 and col. 4, lines 29-37) where the private address space is operated by a large organization that uses a different addressing configuration than the public internet or another large organization.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (USPN 6,515,974), of record, in view of Leung (USPN 6,195,705), of record, in further view of Rao (USPN 6,535,511), of record.

11. Regarding claim 4, Inoue discloses a method of communications between first and second wireless networks, comprising: receiving a first Internet Protocol (IP) packet having a payload portion (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16) where it is implicit that the IP packet will have a header and a payload portion, the IP packet having a header containing a private network address of a first node in the first wireless network (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16), where it is implicit that the IP packet will have a header and a payload portion; translating the private network address in the header portion to a public network address (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16); and sending a second IP packet having a header and payload portion to a second node in the second wireless network (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16), the header portion of the second IP packet containing the public network address translated from the private network address (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16).

Inoue does not expressly disclose that the first Internet Protocol (IP) packet has a payload portion containing a General packet radio service Tunneling Protocol (GTP) data unit, the GTP data unit in the payload portion of the IP packet containing the private network address of the first node. Leung teaches, wireless communication system, that the GPRS Tunneling Protocol

(GTP) is well known in the art (col. 12, lines 21-32) where Examiner takes official notice that it is well known in tunneling to encapsulate a packet in a payload portion of another packet such that the encapsulated packet retains its header including the addresses. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a first IP packet have a payload containing a GTP data unit, the GTP data unit containing the private network address of the first node since the GTP protocol is a well-known protocol.

Inoue in view of Leung does not expressly disclose translating the private network address in each of the header and payload portion to a public network address. Rao teaches, in a packet communication system using network address translation (NAT), that “some applications embed addressing information in their message payload data” in order to “initialize or set up a communication session with another application” where “[t]his embedded addressing information is also to be translated when the packet is crossing a boundary” (col. 1, lines 45-48 and col. 4, lines 1-6). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a private network address in the payload portion and to translate the private network address in each of the header and payload portion to a public network address in order to permit communication between applications existing in disparate addressing systems.

12. Claims 5, 6, 13-16, 18-21, 23, 24, 28, 29, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (USPN 6,515,974), of record, in view of Rao (USPN 6,535,511), of record, in further view of Chuah (USPN 6,839,339), of record.

13. Regarding claims 5, 18, 19, and 24, Inoue discloses a method of communications between first and second wireless networks, comprising receiving a first Internet Protocol data

packet having a header and a payload portion, the header of the first data packet containing a private network address of a first node in the first wireless network (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16) where it is implicit that the IP packet will have a header and a payload portion; translating, by a network address translator, the private network address in the header to a public network address (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16); and sending a second IP packet containing the public network address translated from the private network address to a second node in the second wireless network (Figs. 2 and 3 and col. 9, line 35-col. 10, line 16).

Inoue does not expressly disclose that the payload portion contains the private network address or translating the private network address in each of the header and payload portion to a public network address. Rao teaches, in a packet communication system using network address translation (NAT), that “some applications embed addressing information in their message payload data” in order to “initialize or set up a communication session with another application” where “[t]his embedded addressing information is also to be translated when the packet is crossing a boundary” (col. 1, lines 45-48 and col. 4, lines 1-6). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a private network address in the payload portion and to translate the private network address in each of the header and payload portion to a public network address in order to permit communication between applications existing in disparate addressing systems.

Inoue in view of Rao does not expressly disclose that the first and second nodes are GPRS support nodes. Chuah teaches, in a wireless communication system, that SGSNs and GGSNs are a well-known component of a core network used to communicate information between a radio network and a backbone network (Fig. 2 and col. 2, lines 45-57). Therefore, it

would have been obvious to one of ordinary skill in the art at the time of the invention to have the first and second nodes be GPRS support nodes since SGSNs and GGSNs are a well-known component of core network of a wireless network.

14. Regarding claim 6, Inoue in view of Rao in further view of Chuah suggests that receiving the first IP packet containing the private network address of the first GPRS support node comprises receiving the first IP packet containing the private network address of a Serving GPRS Support Node, and wherein sending the second IP packet to the second GPRS support node comprises sending the second IP packet to a Gateway GPRS Support Node (Inoue: Fig. 3 and Chuah: Fig. 2) where each radio network in Inoue will have a GGSN, as seen in Chuah, such that transmission from one node on one network to a second node on a second network will result in the packet traveling through the SGSN of the one network and the GGSN of the second network.

15. Regarding claims 13 and 23, Inoue in view of Rao does not expressly disclose that the first packet has a payload portion containing a General Packet Radio Service Tunneling Protocol (GTP) data, the GTP data containing the private network address. Chuah teaches, in a wireless communication system, that it is well known to have a packet contain a GTP data unit (Fig. 1) in order to permit communication between RNCs, SGSNs, and GGSNs (Fig. 7). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the first packet contain a GTP data unit in the payload portion of the data packet, the GTP data containing the private network address, since this is a well-known way to communicate between RNCs, SGSNs, and GGSNs.

16. Regarding claim 14, Inoue in view of Rao does not expressly disclose receiving the first packet from a Serving General packet radio service Support Node (SGSN) in the first wireless

Art Unit: 2616

network, the first node comprising the General Packet Radio Service support node (GGSN).

Chuah teaches, in a wireless communication system, that SGSNs and GGSNs are a well-known component of a core network used to communicate information between a radio network and a backbone network (Fig. 2 and col. 2, lines 45-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive data from a SGSN by a GGSN since SGSNs and GGSNs are a well-known component of core network of a wireless network.

17. Regarding claim 15, Inoue in view of Rao in further view of Chuah suggests sending the second packet to a GGSN in a second wireless network (Inoue: Fig. 3 and Chuah: Fig. 2) where each radio network in Inoue will have a GGSN, as seen in Chauh, such that transmission from one node on one network to a second node on a second network will result in the packet traveling from the SGSN to the GGSN of the one network and from the GGSN of the one network to the GGSN of the second network.

18. Regarding claim 16, Inoue in view of Rao in further view of Chuah suggests receiving the first packet from the SGSN associated with a first public land mobile network (PLMN) and sending the second packet to the GGSN associated with a second (PLMN) (Inoue: Fig. 3 and Chuah: Fig. 2) where each radio network in Inoue will have a GGSN, as seen in Chauh, such that transmission from one node on one network to a second node on a second network will result in the packet traveling from the SGSN to the GGSN of the one network and from the GGSN of the one network to the GGSN of the second network.

19. Regarding claim 20, Inoue in view of Rao in further view of Chuah discloses that the first wireless network is associated with a first network operator and the second wireless network is associated with a second network operator (Inoue: col. 3, lines 1-15 and col. 4, lines 29-37)

Art Unit: 2616

where the private address space is operated by a large organization that uses a different addressing configuration than the public internet or another large organization.

20. Regarding claim 21, Inoue in view of Rao in further view of Chuah discloses that the interface is adapted to receive the data packet comprising an Internet Protocol packet (Inoue: col. 9, lines 35-38 and col. 10, lines 6-16).

21. Regarding claim 28, Inoue in view of Rao in further view of Chuah discloses that translating the private network address in the payload portion of the data packet is performed by identifying a string in the payload portion containing the private network address (Rao: col. 4, lines 9-19 and col. 4, lines 60-67).

22. Regarding claims 29 and 31, Inoue in view of Rao does not expressly disclose that receiving the first data packet comprises receiving the first data packet having the payload portion that contains a Packet Data Protocol (PDP) Context Create request, the PDP Context Create request containing the private network address of the first node. Chuah teaches, in a wireless communication system, using a PDP Context Create request in order to signal between network elements in a GTP system (Fig. 6 and col. 4, lines 16-58). Therefore, it would have been obvious one of ordinary skill in the art at the time of the invention to have receiving the first data packet comprise receiving the first data packet having the payload portion that contains a Packet Data Protocol (PDP) Context Create request, the PDP Context Create request containing the private network address of the first node, since the PDP Context Create request is a well known signal in a GTP system.

23. Regarding claim 32, Inoue in view of Rao in further view of Chuah discloses that the payload portion of the first IP packet contains a Packet Data Protocol (PDP) Context Create

Art Unit: 2616

request, the PDP Context Create request containing the private network address of the GPRS Support node (Chuah: Fig. 6).

24. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (USPN 6,515,974), of record, in view of Leung (USPN 6,195,705), of record, in further view of Rao (USPN 6,535,511), of record, as applied to claim 4 above, and further in view of Chuah (USPN 6,839,339), of record.

25. Regarding claim 30, Inoue in view of Leung in further view of Rao does not expressly disclose that receiving the first IP packet containing the GTP data unit comprises receiving the first IP packet containing the GTP data unit carrying a Packet Data Protocol (PDP) Context Create request. Chuah teaches, in a wireless communication system, using a PDP Context Create request in order to signal between network elements in a GTP system (Fig. 6 and col. 4, lines 16-58). Therefore, it would have been obvious one of ordinary skill in the art at the time of the invention to have receiving the first IP packet containing the GTP data unit comprises receiving the first IP packet containing the GTP data unit carrying a Packet Data Protocol (PDP) Context Create request, since the PDP Context Create request is a well known signal in a GTP system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel J Ryman
Examiner
Art Unit 2616

DR



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600